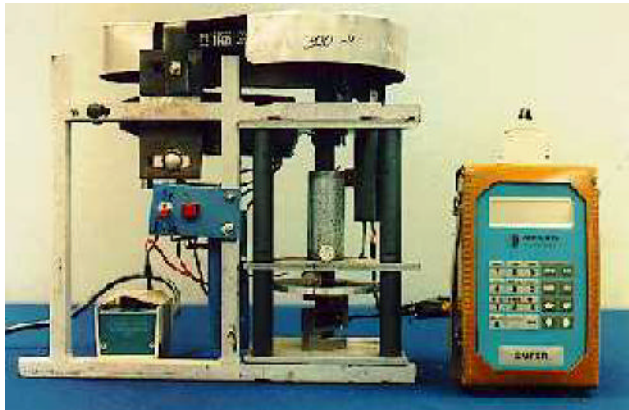


Dry Aggregate Stability

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Dry aggregate stability (DAS) refers to the resistance of soil aggregates to breakdown from physical forces (Skidmore and Powers, 1982). We measure DAS because studies have shown that abrasion of blowing sand grains against aggregates correlates well with a measure of dry aggregate stability called the crushing energy (Hagen *et al.*, 1992). Dry aggregate stability is measured for surface soil aggregates of approximately 20 mm diameter using a crushing energy meter shown below (Skidmore and Powers, 1982). Fifteen aggregates are collected from 3 or more different sites in the field. Each aggregate is crushed to a specified endpoint; the crushing energy is determined by integrating the area under the curve relating force of crushing versus distance of crushing. We collect samples only prior to the erosion event because we assume aggregate stability does not change appreciably during the wind erosion sampling period. In studies spanning several months, we recommend measuring aggregate stability at least monthly.

Soil aggregate crushing energy meter.



References

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